

Effects of malaria on school attendance among primary school pupils in Khana Local Government Area, Rivers State, Nigeria

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ABSTRACT:

The non-cognitive effect of malaria in relation to school attendance among primary school pupils in Khana Local Government Area, Rivers State, Nigeria was assessed using a cross sectional survey approach. Two sets of self-structured questionnaires were produced and distributed among teachers and pupils of six randomly selected primary schools in the study area. All the 60 questionnaires distributed to 60 teachers in the 6 primary schools were answered and returned. Out of the 60 respondents, 21(35%) were males while 39 (65%) were females, 47(78.3%) were form teachers while 13(21.7%) were regular teachers. Among the form teachers, 78.3% ($P<0.05$) mark pupils' attendance register daily but all the teachers (100%) agreed that pupils have been absent from school on account of poor health, 60% agreed that an average of 1-5 pupils were absent from school per week on account of poor health while 75% ($P<0.05$) claimed that malaria was the commonest disease that caused pupils' absenteeism from school. Pupils that missed test/examination due to absenteeism were not considered for make-up test by 72% ($P<0.05$) of the teachers. Out of 120 pupils investigated, 87(72.5%) have been absent from school on account of ill health. Malaria caused 79(90.8%) of the pupils to be absent and during treatment, all the pupils kept away from school. 68(83.5%) were not able to meet up lost lessons and this affected the grade of 80% of the pupils. However, they were all promoted to the next class. Policy makers, health agencies and other stakeholders should consider appropriate control measures that will meliorate malaria-related school absenteeism in the study area.

Key words: Malaria, Pupils, School, Absenteeism, Khana

INTRODUCTION

Malaria is a parasitic disease caused by protozoa of the genus *Plasmodium*. In Nigeria, it is majorly cause by *Plasmodium falciparum* and *Plasmodium malariae* and transmitted from infected person to the other through the bite of infected anopheles mosquito [1]. The disease is associated with poverty and poor environmental sanitation, and it remains a public health concern in sub-Saharan Africa with serious morbidity and mortality consequences especially among pregnant women and children below the age of five years. Despite the well-publicized awareness on the disease especially in endemic regions and the huge financial investment to controlling the disease, an estimated 300 to 500million clinical cases of the disease are reported every year and 700, 000 to 2.7million people are killed per year, 75% of which are African children [2].

In 2011, United State Embassy in Nigeria released a report that indicated that, in Africa, Nigeria, Democratic Republic of Congo (DRC), Ethiopia, and Uganda account for nearly 50% of the global malaria deaths and it remains the second leading cause of death in the continent, after HIV/AIDS. The report further stated that almost 1 out of 5 deaths of children under five years in Africa is due to malaria [3].

The report equally indicated that in Nigeria, there are more reported malaria cases and deaths than any other country in the world possibly because 97% of the population lives in malaria endemic

regions of the country and is at risk of the disease while the remaining 3% of the population lives in the malaria-free highlands [3]. According to the report, an estimated 100 million cases of malaria occur per year resulting in an estimated 300,000 deaths; malaria contributes to an estimated 11% of maternal mortality [3].

Another report from the Federal Ministry of Health showed that malaria accounts for 60% of outpatient visits to hospital, 30% childhood death, 25% of which are below one year and 11% maternal death. The disease also exact enormous financial burden on national economy gulping an estimated 132billion naira per year in treatment, prevention and loss of man hour [4].

Another dimension to the consequences of malaria is its effects on the education sector. Malaria is known to affect academics and cognitive development of school children. [5] recorded that children with severe malaria develop either neurological or cognitive impairments and all children who had cognitive impairments had at least one seizure. Studies indicated that at least 500million school children globally are at risk of malaria infection, 200million of which are children in sub-Saharan Africa [6]. For instance, in Sri Lanka, [7] reported that repeated malaria bouts negatively impact on the cognitive capacities and academic performance of school children.

Malaria can also have indirect or non-cognitive impact on academic performance of school children

due to school absenteeism, general health conditions as well as the behaviours associated with the disease[8][9][10]. For instance, a study in Kenya and Nigeria showed that malaria accounts for 11% and 6% absenteeism from school per year respectively [9].

In view of the indirect impact of malaria on educational progress of school children through absenteeism, it becomes pertinent to carry out a study to investigate the impact of the disease on school attendance among pupils in Khana Local Government Area, Rivers State, Nigeria.

MATERIALS AND METHODS

The study was carried out in Khana Local Government Area (Fig. 1), one of the major Local Government Areas of Rivers State. It occupies an area of 560 square kilometers and lies in the Niger Delta within latitude $4^{\circ}42'1''$ NE and longitude $8^{\circ}21'1''$ NE. The indigenes are subsistent farmers and traders within an environment heavily polluted and devastated by crude oil [11]. It has a population of about 294,217 as indicated in 2006 national census [12]. The Local government Area has several public primary schools distributed in the various communities in the area. Six public primary schools were randomly selected from the three administrative divisions (Nyo-khana, Ken-Khana and Babbe) for investigation. The primary schools included Community primary school 1, Okwale, Community Primary school II, Beeri, Community Primary school, Kpean, Community Primary School, Bane, Community primary school 1, Bori and Community primary school Zaakpon. The study was conducted within February 2016 and August, 2016.



Fig. 1: Map of Khana Local Government

SAMPLING METHOD

A cross sectional survey technique was adopted in this study using questionnaires to obtain information on age, class and health-related absenteeism from school. Two sets of

questionnaires were produced, one set for form teachers and the other for pupils.

ETHICAL APPROVAL

Application for approval for the study was made to the Ethics Committee, Ignatius Ajuru University of Education, Port Harcourt. The study was considered worthwhile and the application granted. The questionnaire contained consent form to be completed by participants before taking part in the study.

DATA ANALYSIS

Data obtained were analyzed using SPSS version 17.0 at 95% significance level. Chi square was used to analyze the significance of the results.

RESULTS

A total of 60 questionnaires were produced for the teachers and 120 questionnaires for the pupils. The questionnaires were randomly distributed to the form teachers and pupils in the selected schools. All the 60 questionnaires distributed to the form teachers were answered and returned.

The demographic analysis of the teachers indicated that 29(48.3%), 21(35.0%), 8(13.3%) and 2(3.4%) were within the age bracket of 36-40, 26-35, 20-25 and 41 and above respectively. Females represented 65% of the teachers while 35% were males (Table 1).

Among the teachers that responded to the questionnaires, 47(78.3%) were form masters while 13(21.7%) were regular teachers. Many of the form teachers 23(38%) claimed to have been in charge of managing pupils' attendance for 6 to 10 years, while 17(28.4%), 14(23.3%) and 6(10%) claimed to have been form teachers for 11-15 years, 16- 20 years and 0-5 years respectively (Table 2). 78.3% of form teachers mark the attendance register daily and all the teachers 60(100%) that responded to the questionnaire agreed that pupils have been absent from school on account of poor health.

Out of 60 respondents, 36(60%), 16(26.6%) and 8(13.3%) agreed that the average number of pupils that are absent from school per week on account of poor health is 1-5, 5-10 and 10 - above respectively. 75% of the respondents agreed that the commonest disease that caused pupils' absenteeism from school is malaria while 20%, 2% and 1% claimed measles, HIV/AIDS and tuberculosis are the commonest diseases responsible for health related absenteeism from school (Table 2).

Table 1. Demographic characteristics of teachers (n=60)

DEMOGRAPHIC CHARACTERISTICS	NO. OF RESPONDENTS (%)
Age	
20 - 25	8(13.3)
26- 35	21(35.0)
36-40	29(48.3)
41-above	02(3.4)
Sex	
Male	21(35)
Female	39(65)

Table 2: Effects of malaria in relation to absenteeism from school

Variables	No. of Respondents (%)
Are you a form teacher (Master)?	
Yes	47(8.3)
No	13(21.7)
If yes, how long have you been a form teacher (Master)?	
0-5years	6(10.0)
6-10years	23(38.4)
11- 15years	17(28.4)
16-20years	14(23.3)
Do you mark pupils' attendance register daily?	
Yes	47(78.3)
No	13(21.7)
Have any of your pupils been absent from school on account of health?	
Yes	60(100)
No	0(0)
What is the average number of pupils that are absent from school in your class per week on account of poor health?	
1-5	36(60)
5-10	16(26.6)
10-above	8(13.3)
What is the commonest disease that cause pupils' absenteeism from school?	
Tuberculosis	1(1.7)
Measles	12(20)
Malaria	45(75)
HIV/AIDS	2(3.3)
Do you have a sick bay/clinic in your school?	
Yes	0(0)
No	60(100)
Has any of your pupils ever miss test/examination on account of malaria attack?	
Yes	57(95)
No	3(5)
Do you regularly give a make-up test/examination for students who miss your test/examination?	
Yes	17(28)
No	43(72)

Table 3: Effects of malaria on Pupils in relation to absenteeism (n=120)

VARIABLES	NO. OF RESPONDENTS (%)
Have you ever been absent from school on account of sickness?	
Yes	87(72.5)
No	33(27.5)
If yes, what is the name of the sickness?	
Malaria	79(90.8)
Measles	2(2.3)
Cholera	6(6.9)
HIV/AIDS	0(0)
Tuberculosis	0(0)
If it was malaria, how long did it take you to treat it?	
One week	14(17.7)
Two weeks	33(41.8)
Three weeks	21(26.6)
One month	11(13.9)
Where you able to attend school during the period of treatment?	
Yes	0(0)
No	79(100)
If No, how many days were you absent from school in the term?	
1-5days	14(17.7)
6-10days	49(62.0)
10-above	17(21.5)
On resumption of school after treatment, were you able to meet up with lost lessons?	
Yes	13(16.5)
No	66(83.5)
If Yes, did your teacher re-teach/revise the lost lesson?	
Yes	9(11.4)
No	70(88.6)
If No, how did you recover lost lessons?	
Revise on my own	34(35.1)*
Copy note from friends	33(34.0)*
Do nothing about lost lessons	30(40)*
Did you miss any test/examination during this period of absenteeism?	
Yes	40(50.6)
No	39(49.4)
If Yes, how many test /examination did you miss?	
One	13(32.5)
Two	15(37.5)
Three	9(22.5)
Four	3(7.5)
Did the missed text affect your grade?	
Yes	32(80)
No	8(20)
If Yes, did you fail the examination for the term?	
Yes	32(80)
No	7(20)
If Yes, were you promoted to the next class?	
Yes	32(100)
No	0(0)

N/B: Percentage is based on the number of pupils that have been absent from school on account of malaria

Majority of the respondents 57(95%) agreed that pupils missed test/examination on account of malaria and pupils who missed test/examination are not given any make-up test by 43(72%) of the respondents. However, 17(28%) claimed that make-up test are given to such students (Table 2). Table 3 shows the response of the pupils to the questionnaire. At most times, the questions were translated into Ogoni for the pupils to understand the basic content. Out of the 120 respondents, 87(72.5%) claimed to have been absent from school on account of sickness. Out of the 87 that claimed to have been absent from school, 90.8%, 6.9% and 2.3% agreed that malaria, cholera and measles were the causes of the absenteeism respectively. Majority of the pupils 33(41.8%) claimed that malaria kept them away from school for two weeks, 14(17.7%) agreed to one week, 21(26.6%) agreed to three weeks while 11(13.9%) agreed to one month. All the 79(100%) of pupils who had malaria bout kept away from school during period of treatment. And in a term, 49(62%), 17(21.5%) and 14(17.7%) lost 6-10days, 10days and above and 1-5days respectively. On resumption of school after treatment, 66(83.5%) were not able to meet up with lost lessons. Similarly, during the period of absenteeism, 40(50.6%) claimed to have missed test/examination, 37% missed two tests, 32.5% missed one test 22.5% and 7.5% missed three and four tests respectively. 80% of the pupils agreed that the missed test affected their grade and this caused their failure in examination, although they were all promoted to the next class (Table 3).

DISCUSSION

Malaria is a parasitic disease that has been implicated in impaired cognitive development of school children [5] and the disease is associated with several neglected tropical diseases [7]. This study examined the indirect or non-cognitive effects of malaria on academic progress of children through absenteeism from school. Malaria is said to account for between 13% and 50% of the medical reasons for absenteeism from school [9].

The results obtained in this study indicated that of all the diseases, malaria is responsible for 90.8% absenteeism from school among pupils in the study area. This result is higher than the 30-50% absenteeism recorded in Kenya by [8]. The record indicated that an estimated 4-10million school days were lost in Kenya due to malaria in 2000 [8]. The results recorded in this study is also higher than the 17% to 54% absenteeism reported among primary school pupils in the highlands of Kenya [13].

Again, the results indicated that 62% of pupils investigated missed an average of 6-10 school days

per term due to malaria bouts. This is equally higher than the 11% of pupils that missed 20 school days per year in Kenya as reported by [9] but lower than the 36.8% absenteeism among school children in Muea area in Cameroun, recorded by [13]. The researchers reported that school children lose school days ranging from 0.5 to 14days and each child lose an average of 1.53 school days per month.

In Nigeria, other evidence suggests that 2% to 6% of pupils missed 3 to 12 school days per year per pupil [9]. However, the higher percentage recorded in this study may be attributed to the fact that the impact of malaria is greater on primary school pupils than secondary school children [9]. It may also be attributed to the higher vulnerability of children in the area to malaria due to poor socioeconomic, environmental and nutritive factors.

Table 3 indicated that a statistically significant ($P<0.05$) number of pupils (83.5%) were unable to meet up lessons lost during malaria episodes after recovery. Again, 50.6% of pupils agreed that they missed test/examination during the period of absenteeism.

Although there was no significant difference ($P>0.05$) between pupils that missed test/examination (50.6%) and the others (49.4%) that did not miss any test/examination during period of absenteeism from school, 80% agreed that their grades were affected.

Again, 72% of teachers agreed that pupils who missed test/examinations were not offered another opportunity for a make-up test/examination. The reasons for the inability of the teacher to administer a make-up test or examination to pupils who resumed school after a malaria episode could not be immediately ascertained, but it could be attributed to the system of education in the country that encourages mass promotion of pupils irrespective of their academic performance and unprofessionalism on the part of the teachers. The reduced grade equally affected academic progress of the 80% of the pupils, although the system allows for mass promotion of pupils to the next class (Table 3).

The effects of malaria on school absenteeism among pupils in the study area has been demonstrated in this study and it is a major factor contributing not less than 90.8% of health-related school absenteeism. It has therefore created an urgent need to enhance control of malaria among pupils in rural primary schools in the area.

CONCLUSION

The results of the study has establish a non-cognitive effect of malaria on primary school pupils in the study area. Health related absenteeism among these pupils have a multiplier effect on their academic progress and knowledge. Hence, the government, policy makers and stakeholders should consider and include appropriate control measures that will meliorate the non - cognitive effects of the disease on the pupils.

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CONFLICT OF INTEREST

The authors have no conflict of interest with regard to publication of this study.

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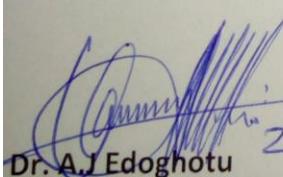
Date: 21st January, 2016.

Dr. L. B Gboeloh,
Department of Biology
Sir,

RE: ETHICAL APPROVAL

Sequel to your letter dated 20th January, 2016 requesting approval for a research work titled **EFFECTS OF MALARIA ON SCHOOL ATTENDANCE AMONG PRIMARY SCHOOL PUPILS IN KHANA LOCAL GOVERNMENT AREA, RIVERS STATE, NIGERIA**, I write to inform you that after due consideration of the subjects and methodology as contained in your proposal, approval is granted within the frame work of the proposal.

Thank you


Dr. A. J. Edoghotu 21/01/2016

(Secretary)